# MCS 1730

MCS 1730 is a synthetic hydrocarbon fluid suggested for evaluation as a dielectric fluid. Typical data for MCS 1730 are given below. These data are based upon samples tested in our laboratories and are not guaranteed for all samples. Material is available for evaluation and purchase.

## Electrical Properties**

| | |
|---|---|
| Dielectric Constant, 100°C., 60 Hz (ASTM D924) | 2.2 |
| Dissipation Factor, 100°C., 60 Hz (ASTM D877) | 0.0002 |
| Resistivity, 100°C. (ASTM D1169) | $3 \times 10^{15}$ ohm cm |

## Physical and Chemical Properties*

| | |
|---|---|
| Specific Gravity, 25/25°C. (ASTM 1810) | 0.887 |
| Viscosity, 210°F. (99°C.) (ASTM D445) | 4.5 cs |
| 100°F. (38°C.) | 31.0 cs |
| Pour Point (ASTM D97) | -20°F. (-29°C.) |
| Flash Point (ASTM D92) | 335°F. (180°C.) |
| Fire Point (ASTM D92) | 410°F. (210°C.) |
| Autogenous Ignition Temperature (D2155) | 675°F. (357°C.) |
| Vapor Pressure at 100°F. (38°C.) | 0.5 torr |
| 200°F. (93°C.) | 3.0 torr |
| 300°F. (149°C.) | 10 torr |

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**Sample refined by passage through Fullers Earth packed column.

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# TOXICITY STATEMENT

MCS 1730 has an oral $LD_{50}$ of 15.8 g/kg to albino rats and a dermal $LD_{50}$ of 7.94 g/kg to albino rabbits. This product is considered to be practically non-toxic by ingesting in single doses and by single dermal applications.

The undiluted product is a slight irritant to rabbit skin (average score of 1.0 on a scale of 8) but practically non-irritating to the rabbit eye (average score of 6.0 on a scale of 110). A group of male rats survived a six-hour exposure to air near saturation with vapor of this material at room temperature. They exhibited no adverse signs during the exposure and subsequent 10-day observation period.

Groups of 20 male and 20 female albino rats were fed diets containing levels of 100 ppm, 300 ppm, or 1000 ppm of MCS 1730 for 90 days. A similar group of rats of both sexes served as controls. During the study no differences in behavior, survival, final body weight, body weight gain or food intake between test and control animals were noted. No adverse alterations in hematology (hematocrit levels, erythrocyte, hemoglobin and total and differential leukocyte counts), blood chemistry (blood urea nitrogen, fasted blood glucose concentrations and serum alkaline phosphatase and glutamine-pyruvic transaminase activities) or urinalyses (glucose and albumin concentrations, pH, specific gravity and microscopic examination) were noted.

On termination of the feeding study, 15 animals of each sex were sacrificed and autopsied by gross examination. Weights of liver, kidney, spleen, gonads, heart and brain of each rat were determined and recorded. A microscopic examination of tissues and organs (approximately 32 per animal) from ten rats of each sex from both the control and 1000-ppm MCS 1730 group was conducted. There was no relevant gross or microscopic pathology and no significant differences between test and control animals in either organ weights or their ratios to body or brain weights.



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Separate groups of White Leghorn chickens (4 males and 20 females per group) were fed diets containing 30 ppm, 100 ppm or 300 ppm of MCS 1730 for 12 weeks, after which the birds were returned to a normal diet for an additional 4 weeks. A similar group of 24 birds served as controls. No abnormalities in body weight gain, food consumption, survival, or behavioral reactions were noted. No adverse effects in egg production or egg quality (defects, breakage, weight, shell thickness, specific gravity) related to ingestion of MCS 1730 were noted. No differences in the viability (hatching of chicks during the study) or body weight gain in the $F_1$ generation (chicks) were seen. No relevant gross pathological abnormalities were determined for either the partens or the $F_1$ generation birds.

The biodegradability of MCS 1730 has not been studied. We believe its biodegradability would be similar to that of crude oil, and consequently recommend that the spent fluid be treated as such.

In addition, we have conducted acute static toxicity studies with bluegills and fingerling trout. Under these test conditions, the 96-hour $TL_{50}$ is greater than 100 ppm for both species of fish.

## HANDLING CHARACTERISTICS

Although no special precautions appear necessary based on the above data, good industrial practice as to housekeeping, personal hygiene, avoidance of prolonged and repeated skin contact and splashing in the eyes is indicated. Excessively high temperatures may produce irritating vapors (similar to petroleum oil).

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